

# STATE OF MONTANA

## JOB DESCRIPTION

*Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.*

**Job Title:** Bridge Conditions and Operations Engineer

**Position Number:** 54150059

**Location:** Helena

**Department:** Transportation

**Division and Bureau:** Engineering Division / Bridge Bureau

**Section and Unit:** Bridge Management

**Job Overview:** *Refer to the instructions and training section for more information.* This position is a statewide technical lead for bridge condition, deterioration, serviceability, load rating, and condition inspection. It is an expert in one or more major types of bridges such as steel girders, trusses, timber, prestressed concrete, or others. This expertise and other engineering knowledge is used to provide leadership to the statewide bridge condition inspection program (NBIS). This position also administers the NBIS Quality Assurance (QA) program, coordinates bridge operations with Motor Carrier Services, and assists with the bridge maintenance and scour program. This position travels statewide approximately 20% of the time, to work with inspectors and review bridge inspections and repairs.

### **Essential Functions (Major Duties or Responsibilities):**

*A job usually has three to five major duties. List major duties in order of importance. Refer to the instructions and training section for more information.*

1. Coordinate NBIS Program 40%

Provides technical leadership and oversight to the NBIS bridge condition inspection program. Works with the District Bridge Inspection Coordinators to identify the underlying engineering issues on specific deficiencies identified during condition inspections, and evaluates these issues for corrective action on individual bridges and for their implication to the statewide inventory of similar bridges. Works with districts to determine the significance of changed conditions noted by the district. Determines need for, and performs, structural analysis to determine bridge capacity based on changed conditions. Administers the NBIS Quality Assurance program. Conducts Quality Assurance reviews both in the office and the field. Coordinates cross-district reviews. Administers and modifies the QA program to ensure bridge conditions are coded uniformly across the State and inspections are meeting standards. Uses QA review results to design program changes to ensure data integrity and bridge safety. Scope for change includes actual bridge

inspection activities, district inspection coordination, quality control/assurance, and program policies. Reviews and sets standards for the NBIS Bridge Condition Inspection program. Ensures MDT program procedures comply with latest FHWA guidelines. Monitors trends in bridge inspection, both within the state and nationwide. Incorporates best practices into the program. Works with the District Bridge Inspection Coordinators on ideas identified in the districts. Evaluates changes and implements them statewide. Develops policy changes for the MDT Bridge Inspection and Load Rating manual. Provides leadership and coordination for statewide bridge inspector meetings. Uses results of various activities, such as engineering issues identified on individual bridges, QA reviews, and trends and changes in the NBIS inspection procedures, to help determine training needs and discussion topics for bridge condition inspector meetings. Coordinates and delegates topic presentation and provides technical oversight for all areas. Develops and provides expertise statewide on one or more areas of bridge condition, deterioration, or analysis. The areas may be items such as steel fatigue, timber deterioration and rehabilitation, concrete beam rehabilitation and repair, or others. Coordinates consultant selection processes with the Consultant Design Bureau for specialized bridge inspections. Manages consultant contracts for specialized bridge inspection services. Provides technical expertise to inspectors on data entry in the Structure Management System. Assesses training needs and develops procedures and policies for use of the Structure Management System.

## 2. Bridge Operations 40%

Provides technical expertise on bridge load rating processes. Develops and implements guidance and policy on bridge load rating processes. Provides technical expertise to the automation of bridge rating using AASHTOWare BrDR software suite. Provides guidance and direction on data input issues to ensure bridge structural input is consistent and reasonable. Reviews analysis outputs and other methods and results to ensure technical accuracy and consistency. Provides feedback and input to the national BrDR steering committee for inclusion in future versions. Recommends levels of funding for BrDR development. Coordinates consultant selection processes with the Consultant Design Bureau for bridge load rating term contracts. Manages consultant term contracts for bridge load rating services. Assists in Managing and performing overweight vehicle and route analysis projects to ensure department policies and restrictions maximize safety and structural integrity, while accommodating transportation and commerce needs of motor carriers and permitting processes. This involves developing and revising policies and permit requirements to reflect changing dynamics (e.g., bridge inventory condition, engineering and safety standards, etc.); coordinating with Motor Carrier Services Division staff and managers to evaluate customer service needs and permitting processes; and overseeing route analyses to integrate safety, efficiency, and economic considerations into reasonable and consistent restrictions. Coordinates and performs overweight truck permit analysis for permitting by Motor Carrier Services. Analyzes bridges along specific routes for the ability to pass or bypass the overload and any conditions that need to be applied using the most recent bridge condition data.

## 3. Bridge Maintenance 10%

Provides coordinated bridge condition inspection and bridge maintenance. Facilitates prioritization of routine maintenance activities to optimize bridge preservation. Provides information on trends, deterioration rates, and severity, in order to optimize maintenance strategies. Assists the Bridge Maintenance Engineer in planning, coordinating, and performing specific bridge maintenance operations.

Provides technical expertise and assistance in developing and executing specific, technically demanding, repair strategies.

4. Bridge Design 5%

Assists Bridge Design personnel in identifying bridges in need of repair, rehabilitation, and/or replacement. Provides technical assistance in producing final load ratings for newly designed bridges. Expert consultant for design crews on areas of expertise. These expertise areas are bridge design areas such as steel girder fatigue, pin and hanger design, concrete rehabilitation and detailing, timber condition and rehabilitation, or others.

## **Supervision**

*If this incumbent supervises others, please list each employee supervised and the position number:*

The number of employees supervised is:

The position number for each supervised employee is:

## **Physical and Environmental Demands:**

*List physical aspects of the job, including frequency and duration, and environmental factors an incumbent can expect in this position. You may also access the State of Montana Safety Program, the Return to Work Program, and other Resources.*

Lifting objects weighing up to 50 lbs. (3. Bridge Maintenance)

Must walk over uneven terrain or in water, climb structures spanning significant heights (i.e., 100+ feet), and use safety equipment (e.g., ropes, hardhats, etc.) (1. Coordinate NBIS Program and 3. Bridge Maintenance)

Travel within the state to project locations approximately 20% of time (less than 1,500 miles per month), and out-of-state travel by airline to national conferences and meetings. (1. Coordinate NBIS Program, 2. Bridge Operations, and 3. Bridge Maintenance)

## **Knowledge, Skills and Abilities (Behaviors):**

List the knowledge, skills and abilities (behaviors) typically required for the first day of work. You may also list preferred knowledge, skills and abilities.

### **KNOWLEDGE**

This position requires a thorough knowledge of the theory, principles, methods and techniques of Civil Engineering and the associated mathematics and physical sciences, especially the methods and practices of bridge structural design. This position must be familiar with AASHTO Design Specifications and standards,

Bridge design standards and policies, industry guidelines and practices, and bridge and road construction methods.

## SKILLS

Skill in project management; planning and organizing. Skill in working with and motivating peers and others not in a direct supervisory line. Skill in drawing conclusions and making recommendations based on often conflicting information. This position must have demonstrated skills at performing engineering analyses; and applying engineering concepts, techniques and procedures to a variety of situations and circumstances. This position must be skilled at evaluating structural problems by examining evidence, discussions with peers and inspection personnel and calculations and contract documents to determine proper course of action. This position requires skill in applying engineering judgment when interpreting design guidelines and standards. Skill in preparing calculations, reports, and other documentation necessary to complete inspection, repair, maintenance, and design projects. Effective writing and verbal communication skills are necessary.

## ABILITIES

**Communication:** Contacts and consults with the Districts (and others) routinely to develop an understanding of District needs, problems, and progress; keeps in touch in order to avoid or solve problems and clarify misunderstandings; shows follow-through on issues presented by the District.

**Leadership:** Demonstrates a consistent pattern of being able to recognize and initiate activities that need to be done to accomplish an objective; motivates associates and peers; creates a positive work climate; energizes subordinates by example.

**Relationship Building:** Develops on-going internal and external relationships that are important for the continuation of current services and practices; obtains organizational short-term and long-term goals by negotiating with others; develops customer success and growth.

**Teamwork:** Displays leadership by focusing on the desired results and work products; acknowledges and celebrates team efforts and accomplishments; identifies and pursues solutions in which all parties can benefit; supports team decisions and outcomes through actions and communication.

**Self Starter:** Recognizes opportunities and takes effective action to achieve results without being told; frequently re-examines the status quo and responds to both obstacles and opportunities; willingly accepts more responsibility or more work.

**Problem Solving:** Develops ideas that are unique contributions to work unit services and processes; identifies root causes of problems and thinks of alternative solutions; challenges the status quo by experimenting with new ideas.

## **Minimum Qualifications (Education and Experience):**

*List the required education and experience required for the first day of work, including alternative methods of acquiring minimum qualifications*

A bachelor's degree in Engineering from an ABET accredited Engineering program that includes civil structural engineering courses in structural analysis, steel design, and reinforced concrete design.

Equilivant of 4 years of bridge related load rating, condition inspection, design, or analysis.

Graduate degrees with concentrations in structural analysis and design will be evaluated on a case by case basis.

Registration as a Professional Engineer (PE) in Montana. Incumbants with PE registration in another State that are eligible for PE registration in Montana through Comity will be be considered.

Must have successfully completed a Federal Highway Administration (FHWA) approved comprehensive bridge inspection training course. Incumbants that haven't completed an FHWA approved comprehensive bridge inspection training course will be required to successfully complete a course within the first year.

### **Special Requirements:**

*List any other special required information for this position*

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|--|--|
| <input type="checkbox"/> Fingerprint check | <input checked="" type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check  | <input type="checkbox"/> Other; Describe                   |
| Union Code                                 | Safety Responsibilities                                    |

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

### **Signatures**

My signature below indicates the statements in the job description are accurate and complete.

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<b>Immediate Supervisor</b>	<b>Title</b>	<b>Date</b>
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<b>Administrative Review</b>	<b>Title</b>	<b>Date</b>
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My signature below indicates that I have read this job description.

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**Employee**

**Title**

**Date**

**Human Resources Review**

**Job Code Title:**

**Job Code Number:**

**Pay Band:**

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt

☐ FLSA Non-Exempt

☐ Telework Available

☐ Telework Not Available

☐ Classification Complete

☐ Organizational Chart attached

**Human Resources:**

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**Signature**

**Title**

**Date**

## Job Description Instructions

A job description is a summary of the most important features of a job. Additional documents should be used in combination with your job description to accomplish goals in recruitment, compliance, performance, and workforce planning.

The following are general instructions for writing a job description:

### Job Overview:

*The job overview describes the purpose of the job. It defines the main "goal" of the work, or the reason why the position exists. Do not repeat the duties you will be describing later. If you can identify a clear link between the mission of the organization, and the purpose of the job, you may describe the link in this section*

**Example:** *This incumbent will work closely with the bureau chief in all areas of benefit program development and administration. The incumbent will have the lead role developing and implementing the VEBA health savings program and will be responsible for overseeing the life insurance, long-term care insurance, vision benefits program, employee assistance program, day care program, and flexible spending account programs.*

### SECTION II – Essential Functions (Major Duties or Responsibilities):

**Essential function** is defined as the basic job duties that an employee must be able to perform, with or without reasonable accommodation. Factors to consider in determining if a function is essential include:

- whether the reason the position exists is to perform that function;
- the number of other employees available to perform the function or among whom the performance of the function can be distributed; and
- the degree of expertise or skill required to perform the function.

*This section should be a clear concise statement of the position's duties. Keep the language clear and job-related. When writing an essential duty, focus on what needs done, and the minimum requirements to perform the job. Do not include detailed processes that may need to change as a reasonable accommodation. This information may be included in a separate document, such as a job audit or job analysis questionnaire. As you will only list essential functions, the percent of duties may not equal 100%.*

### **Describing assigned duties:**

*List the job's essential duties in order of importance. Usually there are about 3-5 **essential** duties. Considerations when determining essential functions are:*



**Percent of time performing a duty** – If a duty is regularly expected to take a substantial amount of work time, the duty is essential.

**Critical Duties** – sometimes a duty may not take up a lot of time, but it has a substantial impact. This is an essential duty. For example, lobbying during the legislative session does not take up a large percent of total work time, but can be an essential duty.

**Non-Essential Duties - ADA Guidance:** Non-essential or marginal duties should not be listed. Reassignment of nonessential job functions is considered a reasonable accommodation under the ADA. For more information on reasonable accommodations and the relationship of the job description to ADA requirements, contact your ADA coordinator.

## **Supervision**

When this is an essential duty, it should include information on the number and type of subordinates, and supervisory responsibilities. Describe supervisory duties by considering the following areas: setting policies, objectives, work plans, work methods and priorities. Does the incumbent assign, review, evaluate, train, hire, and/or discipline?

If the incumbent does not supervise, you may delete this section.

## **Physical and Environmental Demands:**

List physical aspects of the job, including frequency and duration of duties,, and environmental factors an incumbent can expect in this position. You may also access the State of Montana Safety Program, the Return to Work Program, and other Resources.

**Example of Physical Requirements** –For example, a mailroom clerk may be required to lift mail packages weighing 25 pounds frequently, and occasionally lift packages weighing 50 pounds. The minimum requirement would be the ability to lift packages weighing 25 pounds.

## **Knowledge, Skills and Abilities (Behaviors):**

List the knowledge, skills and abilities typically required for the first day of work. You may also list preferred knowledge, skills and abilities

**Example of a Skill Requirement** –For example, an essential duty may be to read blueprints, operate heavy equipment, or operate a computer.

## **Minimum Qualifications:**

List only those education and experience requirements needed for the first day of work. This includes occupational licenses, certifications, degrees, or related requirements. You may also list preferred qualifications, as long as you state that they are preferred. Things to consider when listing minimum qualifications are:

**Education and Licensing Requirement:** - some occupations have specific licensing and education requirements. If the job requires licensing or education, list those requirements on the job description.

**Example of a Minimum Qualification** - To practice medicine, a doctor must be a graduate of an approved medical school, complete an approved residency program of at least two years, and have a license to practice medicine. Another example might be the requirement to maintain a pilot's license to fly a plane.

**Preferred Qualifications** – Some education, skills, or abilities may be desired, but not required. You may still list these qualifications if you note that they are preferred, not required.

**Example of a Preferred Requirement** –For example, the minimum requirement may be experience in accounting, but the preferred requirement might be a CPA.

# STATE OF MONTANA

## SAMPLE JOB DESCRIPTION

*Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.*

**Job Title:** Assistant Office Manager

**Position Number:** 00077777

**Department:** Department of Example

**Division and Bureau:** Management Services Division, Human Resource Bureau

**Section and Unit:** Recruitment and Selection      **Location:** Helena

**Job Overview:** *Refer to the instructions and training section for more information.*

This job provides recruitment support and employment relations for the Human Resources Bureau of the Department of Example. The unit's goal to provide clear communication, quick response time, and accurate information, is essential in helping hiring authorities, applicants, and the human resources team to meet the department's mission "to serve, satisfy and support its customers". As the assistant office manager in the Director's Office, this position will manage and direct workflow for various office processes.

### **Essential Functions (Major Duties or Responsibilities):**

*A job usually has three to five major duties. List major duties in order of importance. Refer to the instructions and training section for more information.*

- **Recruitment Support:** Answers questions regarding the recruitment process, including the online employment process. Reviews and updates recruitment packets used at career fairs. Prescreens applications to ensure the necessary information is included such as supplemental question responses, resume, cover letter and employment preference documentation.
- **Provides Assistance to Hiring Authorities:** Provides information to hiring authorities on the types of recruitment options, such as student interns, short term workers, temporary, and permanent positions. Gives hiring authorities suggestions on how and where to advertise positions. Submits vacancy announcements. Discusses and reviews applicants with hiring authorities regarding potential problems. Must consider comparison of qualifications, reference checks, committee agreement, union seniority and employment preferences.
- **Office administration:** Acts as assistant office manager; provides administrative support to the office manager using office software tools; manages workflow of receptionist; reviews and codes departmental accounting documents and budget documents.

**Physical and Environmental Demands:**

The assistant office manager spends much of their day in an office, but also performs site visits to assist hiring managers. Work may involve sitting for long periods. The assistant office manager typically works a 40-hour workweek. However, overtime may be required because of increased workload.

**Knowledge, Skills and Abilities:**

The assistant office manager should have good communication skills, and be able to establish effective working relationships with many different people, ranging from managers, supervisors, customers, applicants, and professionals, to clerks and blue-collar workers. They should be analytical, detail-oriented, flexible, and decisive. They must be able to coordinate several activities at once, quickly analyze and resolve specific problems, and cope with deadlines.

**Minimum Qualifications (Education and Experience):**

*List the required education and experience for the first day of work, including alternative methods of acquiring minimum qualifications*

2 years job-related education or training or 2 years office experience including use of office software applications. Alternative combinations of education and experience may be considered. Online employment system experience is desirable but not necessary.

**Special Requirements:**

*List the required education and experience for the first day of work, including alternative methods of acquiring minimum qualifications*

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|--|---|
| <input type="checkbox"/> Fingerprint check | <input type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check  | <input type="checkbox"/> Other; Describe        |

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

**Signatures**

My signature below indicates the statements in the job description are accurate and complete.

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**Immediate Supervisor      Title**

**Date**

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<b>Administrative Review</b>	<b>Title</b>	<b>Date</b>
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My signature below indicates that I have read this job description.

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<b>Employee</b>	<b>Title</b>	<b>Date</b>
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**Human Resources Review**

**Job Code Title:** Human Resources Assistant

**Job Code Number:** 434813

**Pay Band:** 3

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt

☒ FLSA Non-Exempt

☐ Telework Available

☒ Telework Not Available

☒ Classification Complete

☐ Organizational Chart attached

**Human Resources:**

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**Signature**

**Title**

**Date**